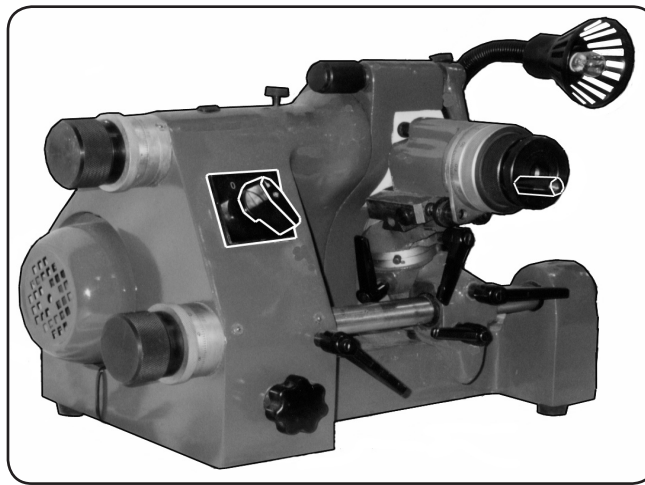


**CENTRAL MACHINERY**®

# 3/4" UNIVERSAL CUTTER / GRINDER

**Model 45707**

## SET UP AND OPERATING INSTRUCTIONS



Diagrams within this manual may not be drawn proportionally.

Due to continuing improvements, actual product may differ slightly from the product described herein.



3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.  
Failure to do so can result in serious injury.  
SAVE THIS MANUAL.**

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**For technical questions or replacement parts, please call 1-800-444-3353.**

Cover revised 07g

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## SPECIFICATIONS TABLE

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Electrical Requirements	120V / 60 Hz / 1/3HP / 3,600 RPM Motor
Maximum Stock Capacity	3/4"
Maximum Grinding Diameter	1"
Taper Angle	0-180 Degrees
Relief Angle	0-45 Degrees
Negative Angle	0-26 Degrees
Grinding Wheel Size	4" Diameter x 2" Deep x 3/4" Thick
Light Source	Built-In Lamp – 12V, 35 Watts
Weight	92.5 lb.

**Note:** Additional operating instructions and user information is available in the backup Operating Handbook included with this product. Please read and understand this instruction manual and the backup Operating Handbook before using the Universal Cutter/Grinder.

### SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

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## SAFETY WARNINGS AND PRECAUTIONS

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1. **KEEP WORK AREA CLEAN AND DRY.** Cluttered, damp or wet work areas invite injuries.
2. **KEEP CHILDREN AWAY FROM WORK AREA.** Do not allow children to handle this product.
3. **STORE IDLE EQUIPMENT.** When not in use, tools and equipment should be stored in a dry location to inhibit rust. Always lock up tools and equipment and keep out of reach of children.
4. **DO NOT USE THIS PRODUCT IF UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.** Read warning labels on prescriptions to determine if your judgement or reflexes are impaired while taking drugs. If there is any doubt, do not attempt to use this tool.
5. **USE EYE AND HEARING PROTECTION.** Wear ANSI approved safety impact eye glasses with an ANSI approved full face mask. Also, wear ANSI approved hearing protectors when working with this product. ANSI approved safety impact eye glasses, full face mask, and hearing protectors are available from Harbor Freight Tools.

6. **DRESS SAFELY.** Non-skid footwear or safety shoes should be used when working with this product. Do not wear loose clothing or jewelry as they can become caught in moving parts. Wear a protective hair covering to prevent long hair from becoming caught in moving parts.
7. **INDUSTRIAL APPLICATIONS MUST FOLLOW OSHA REQUIREMENTS.**
8. **DO NOT OVERREACH.** Keep proper footing and balance at all times to prevent tripping, falling, back injury, etcetera.
9. **STAY ALERT.** Watch what you are doing at all times. Use common sense. Do not use this tool when you are tired or distracted from the job at hand.
10. **CHECK FOR DAMAGED PARTS.** Before using this product, carefully check that this machine will operate properly and perform its intended function. Check for damaged parts and any other conditions that may affect the operation of this machine. Replace or repair damaged or worn parts immediately.
11. **REPLACEMENT PARTS AND ACCESSORIES.** When servicing, use only identical replacement parts. Only use accessories intended for use with this product. Approved accessories are available from Harbor Freight Tools.
12. **MAINTAIN THIS PRODUCT WITH CARE.** Keep this tool clean and dry for better and safer performance.
13. **MAINTENANCE:** For your safety, service and maintenance should be performed regularly by a qualified technician.
14. **USE THE RIGHT PRODUCT FOR THE RIGHT JOB.** There are certain applications for which this product was designed. Do not use a small tool or attachment to do the work of a larger industrial tool or attachment. Do not use this product for a purpose for which it was not intended.
15. **WARNING:** The warnings, cautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

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## **SPECIFIC PRODUCT WARNINGS AND PRECAUTIONS**

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1. **ALWAYS DISCONNECT THIS MACHINE FROM ITS ELECTRICAL SUPPLY SOURCE BEFORE PERFORMING ANY SERVICES OR MAINTENANCE.** Make sure to turn off the Cutter/Grinder prior to cleaning it, changing workpieces and/or tool accessories, etcetera.
2. **DO NOT LEAVE THIS MACHINE RUNNING UNATTENDED.** Turn off the power and wait until the machine stops running before leaving.

3. **GROUND THIS MACHINE.** The electrical power cord for this product is equipped with a grounded, 3-prong plug. Make sure this product is always plugged into a grounded, 3-hole electrical receptacle.
4. **MAKE SURE THE SWITCH IS IN THE “OFF” POSITION BEFORE PLUGGING IN THE POWER CORD.**
5. **DO NOT ABUSE THE POWER CORD.** Do not yank the power cord to disconnect it from the electrical receptacle. Do not move this machine with the power cord in the outlet. Keep the cord away from heat, oil, and sharp edges.
6. **KEEP ALL GUARDS IN PLACE AND IN WORKING ORDER.**
7. **REMOVE ADJUSTING KEYS AND WRENCHES.** Check to make sure all adjusting tools are removed from this product before turning it on.
8. **MAINTAIN A SAFE WORK ENVIRONMENT.** Do not use this product in or near damp or wet areas. Do not expose this product to rain. Keep work area well lit. Make sure there is adequate surrounding work space. Use this product in a well ventilated area. Do not operate this product in the presence of flammable liquids, gasses, or dust. To avoid accidental electric shock, do not let your body come in contact with grounded surfaces such as pipes, radiators, ranges, etcetera.
9. **DO NOT FORCE THE EQUIPMENT.** This Cutter/Grinder will do the work better and safer at the speed and capacity for which it was designed.
10. **AVOID UNINTENTIONAL STARTING.** Make sure you are prepared to begin work before turning the start switch on.
11. **NEVER ATTEMPT TO REMOVE MATERIAL STUCK IN THE MOVING PARTS OF THIS MACHINE WHILE THE MACHINE IS PLUGGED IN AND RUNNING.**
12. **MAKE SURE THIS MACHINE IS PLACED SECURELY ON A FLAT, LEVEL, STURDY WORKBENCH CAPABLE OF SUPPORTING THE WEIGHT OF THE MACHINE, WORKPIECE(S), TOOLS, ETCETERA.**
13. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are: lead from lead-based paints, crystalline silica from bricks and cement or other masonry products, arsenic and chromium from chemical treated lumber. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)

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## UNPACKING

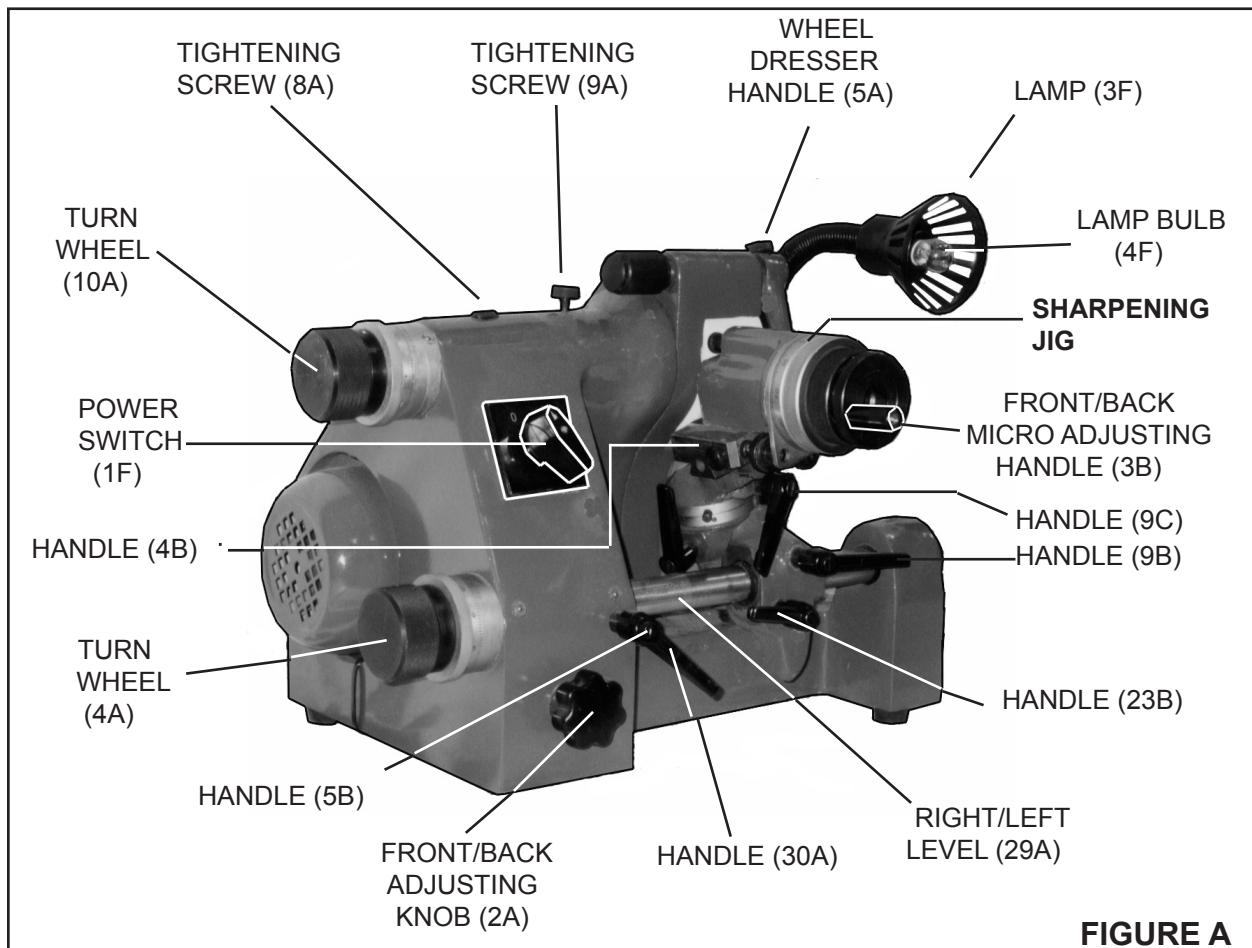
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When unpacking, check to make sure all parts shown on the Parts Lists (pages 9 through 14) are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

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## PRODUCT OVERVIEW

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**FIGURE A**

Prior to operating the Universal Cutter/Grinder, make sure you familiarize yourself with the main parts components and their functions. **(See Figure A, and Assy. Diagrams A, B, C, and F.)**

## PARTS COMPONENTS

Part	Function
(1F) Power Switch	Turn right for "ON". Turn left for "OFF".
(10A) Turn Wheel	Turn clockwise to move Grinding Wheel (21A) to left. Turn counterclockwise to move Grinding Wheel to right.
(8A) Tightening Screw	Turn clockwise to reduce play in Spindle End Sleeve (14A).
(9A) Tightening Screw	Turn clockwise to reduce play in Spindle Sleeve (16A).
(5A) Wheel Dresser Handle	Turn downward to dress Grinding Wheel (21A).
(3F) Lamp	Adjustable.
(4F) Lamp Bulb	120 Volt, 35 Watts
(3B) Front/Back Micro Adjusting Handle	Turn clockwise to open the Collet (20B). Turn counterclockwise to close the Collet.
(9C) Handle	Turn clockwise to lock X travel of Sharpening Jig in place. Turn counterclockwise to unlock.
(9B) Handle	Turn clockwise to lock Y travel of Sharpening Jig in place. Turn counterclockwise to unlock.
(23B) Handle	Turn clockwise to lock X travel of Sharpening Jig in place. Turn counterclockwise to unlock.
(29A) Right/Left Level	Supports X travel of Sharpening Jig.
(30A) Handle	Turn clockwise to lock Right/Left Level (29A) in position. Turn counterclockwise to unlock.
(2A) Front/Back Adjusting Knob	Turn clockwise to lock Turn Wheel (4A) in position. Turn counterclockwise to unlock.
(4B) Handle	Turn clockwise to lock Y travel of Sharpening Jig in position. Turn counterclockwise to unlock.
(5B) Handle	Turn clockwise to lock Y travel of Sharpening Jig in position. Turn counterclockwise to unlock.
(4A) Turn Wheel	Turn clockwise to move Right/Left Level (29A) to right. Turn counterclockwise to move Right/Left Level to left.

## TO USE THE TOOL CUTTER FEATURE

1. **Caution:** Prior to using the cutter feature, make sure the Power Switch (1F) is in its "OFF" position and the machine has completely stopped running. (See Figure A, and Assy. Diagram F.)
2. To insert a tool into the Collet (20B), loosen the Handle (9B) and pull the Sharpening Jig forward. (See Figure A, and Assy. Diagram B.)
3. Turn the Front/Back Micro Adjusting Handle (3B) *counterclockwise* to open the Collet (20B). Insert the tool into the Collet (20B). Then, turn the Front/Back Micro Adjusting Handle *clockwise* to lock the tool into the Collet. (See Figure A, and Assy. Diagram B.)

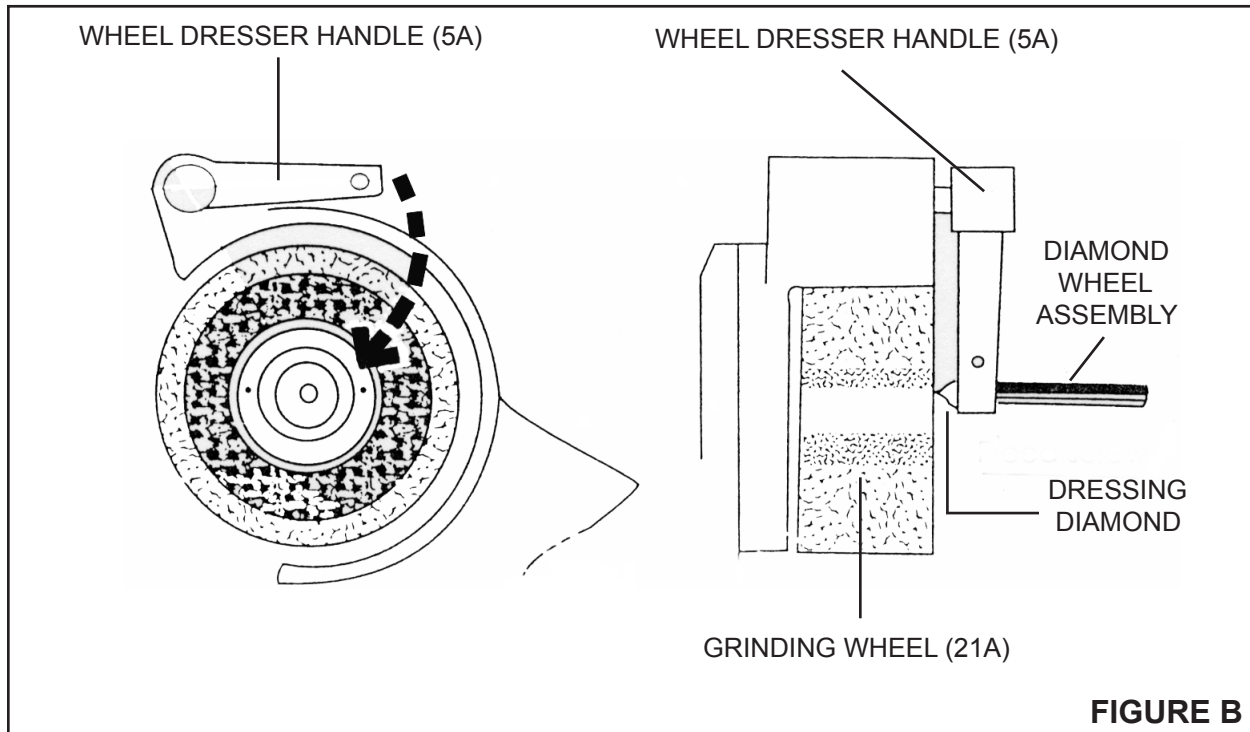
4. Push the Sharpening Jig forward until the tip of the tool is 1/16" from the surface of the Grinding Wheel (21A). Then, retighten the Handle (9B) to lock the Sharpening Jig in place. **(See Figures A, B, and Assy. Diagrams A, and B.)**
5. Turn the Power Switch (1F) to its "ON" position. **(See Figure A, and Assy. Diagram F.)**
6. To move the tool forward and into the spinning Grinding Wheel (21A), turn the Front/Back Micro Adjusting Handle (3B) *clockwise*. To move the tool backward and away from the spinning Grinding Wheel, turn the Front/Back Micro Adjusting Handle *counterclockwise*. **(See Figures A, and B, and Assy. Diagrams A, and B.)**
7. When the tool cutting procedure is completed, turn the Power Switch (1F) to its "OFF" position and wait until the Grinding Wheel (21A) has completely stopped spinning. **(See Figure A, and Assy. Diagrams A, and F.)**
8. Loosen the Handle (9B) and pull the Sharpening Jig forward. **(See Figure A, and Assy. Diagram B.)**
9. Turn the Front/Back Micro Adjusting Handle (3B) *counterclockwise* to open the Collet (20B) and remove the tool. **(See Figure A, and Assy. Diagram B.)**

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## **DRESSING THE GRINDING WHEEL**

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1. **NOTE:** Before each use, check the Grinding Wheel (21A) for worn areas on its flat side and edge. If wearing is evident, it will be necessary to dress the Grinding Wheel. **(See Figure B, and Assy. Diagram A.)**
2. **Caution:** Prior to beginning the wheel dressing procedure, make sure the Power Switch (1F) is in its "OFF" position and the Grinding Wheel (21A) has completely stopped spinning. **(See Figure A, and Assy. Diagram F.)**



**FIGURE B**

3. Lower the Wheel Dresser Handle (5A) so that the *Diamond Wheel Assembly* is facing the flat side of the Grinding Wheel (21A). **(See Figure B, and Assy. Diagram A.)**
4. Adjust the *Diamond Wheel Assembly* inward until the *Dressing Diamond* (included as an accessory) contacts the Grinding Wheel (21A). **(See Figure B, and Assy. Diagram A.)**
5. Turn the Power Switch (1F) to its “ON” position. As the Grinding Wheel (21A) spins, move the Wheel Dresser Handle (5A) to the right and left while, at the same time, slowly adjusting the *Diamond Wheel Assembly* inward no more than 0.0078” (0.2mm). **(See Figures A, B, and Assy. Diagrams A, and F.)**
6. Continue the dressing process in Step #5 above until the flat side of the Grinding Wheel (21A) is completely smooth and its edge is sharp. **(See Figure B.)**
7. Turn the Power Switch (1F) to its “OFF” position, and wait until the Grinding Wheel (21A) has completely stopped spinning. Then, adjust the *Diamond Wheel Assembly* outward, away from the flat side of the Grinding Wheel, and raise the Wheel Dresser Handle (5A) to its original position. **(See Figures A, B, and Assy. Diagrams A, and F.)**



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## **CLEANING AND MAINTENANCE**

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1. **Caution:** Always disconnect the Universal Cutter/Grinder from its electrical supply source before performing any cleaning, servicing, or maintenance.
2. Before each use, inspect the general condition of the Universal Cutter/Grinder. Check for loose screws, misalignment, binding of moving parts, broken parts, loose or damaged electrical power cord, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, disconnect the Universal Cutter/Grinder from its electrical supply source immediately and have the problem corrected before further use. Do not use damaged equipment.
3. If necessary, wipe with a damp cloth. You may use a mild detergent or non-flammable solvent.
4. Once clean, lubricate all moving parts with a light oil.
5. When storing, keep the Universal Cutter/Grinder covered with a cloth cover.

### **PLEASE READ THE FOLLOWING CAREFULLY**

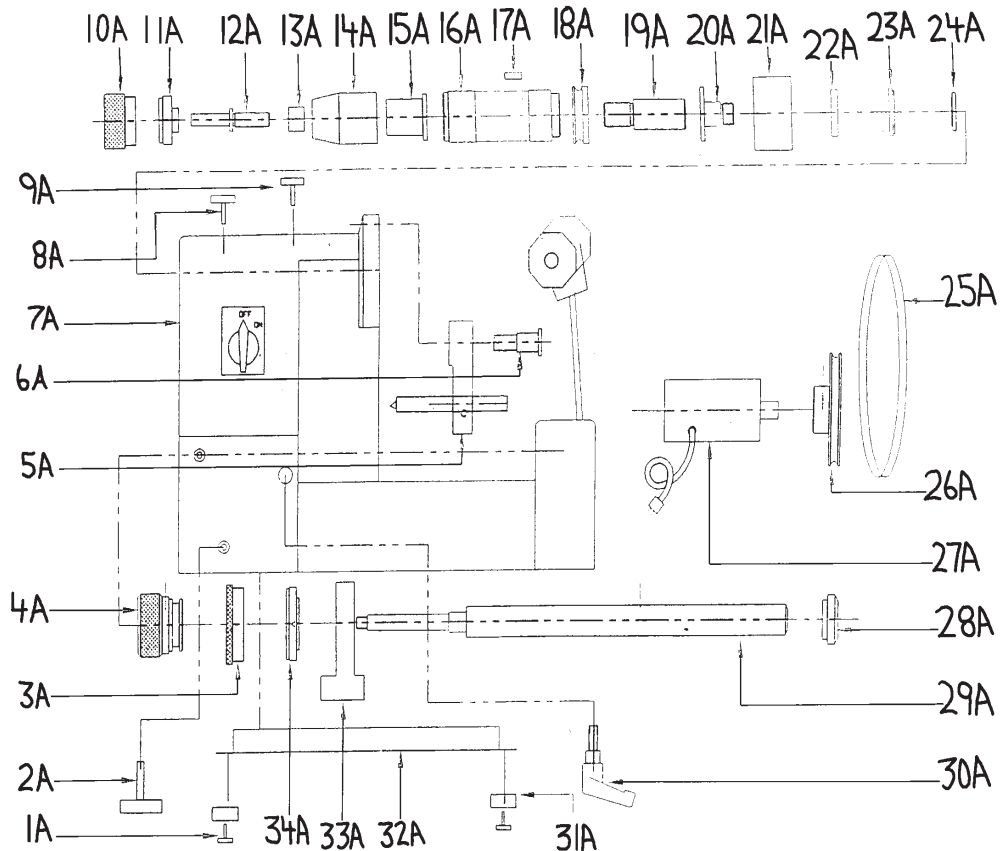
THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

## PARTS LIST A

Part	Description
1A	Bolt
2A	Front/Back Adjusting Knob
3A	Degree Ring
4A	Turn Wheel
5A	Wheel Dresser Handle
6A	Wheel Dresser </td
7A	Seat
8A	Tightening Screw
9A	Tightening Screw
10A	Turn Wheel
11A	Wheel Degree Ring
12A	Adjusting Screw
13A	Copper Plate
14A	Spindle End Sleeve
15A	Passing Spindle Sleeve
16A	Spindle Sleeve
17A	Belt Wheel

Part	Description
18A	Passing Spindle
19A	Flange Screw
20A	Flange Bracket
21A	Grinding Wheel
22A	Flange
23A	Flange Tightening Nut
24A	Key
25A	Drive Belt
26A	Belt Wheel
27A	Motor
28A	Right/Left Fixed Ring
29A	Right/Left Level
30A	Handle
31A	Foot Cushion
32A	Cover Board
33A	Plate
34A	Right/Left Degree Ring

## ASSEMBLY DIAGRAM A



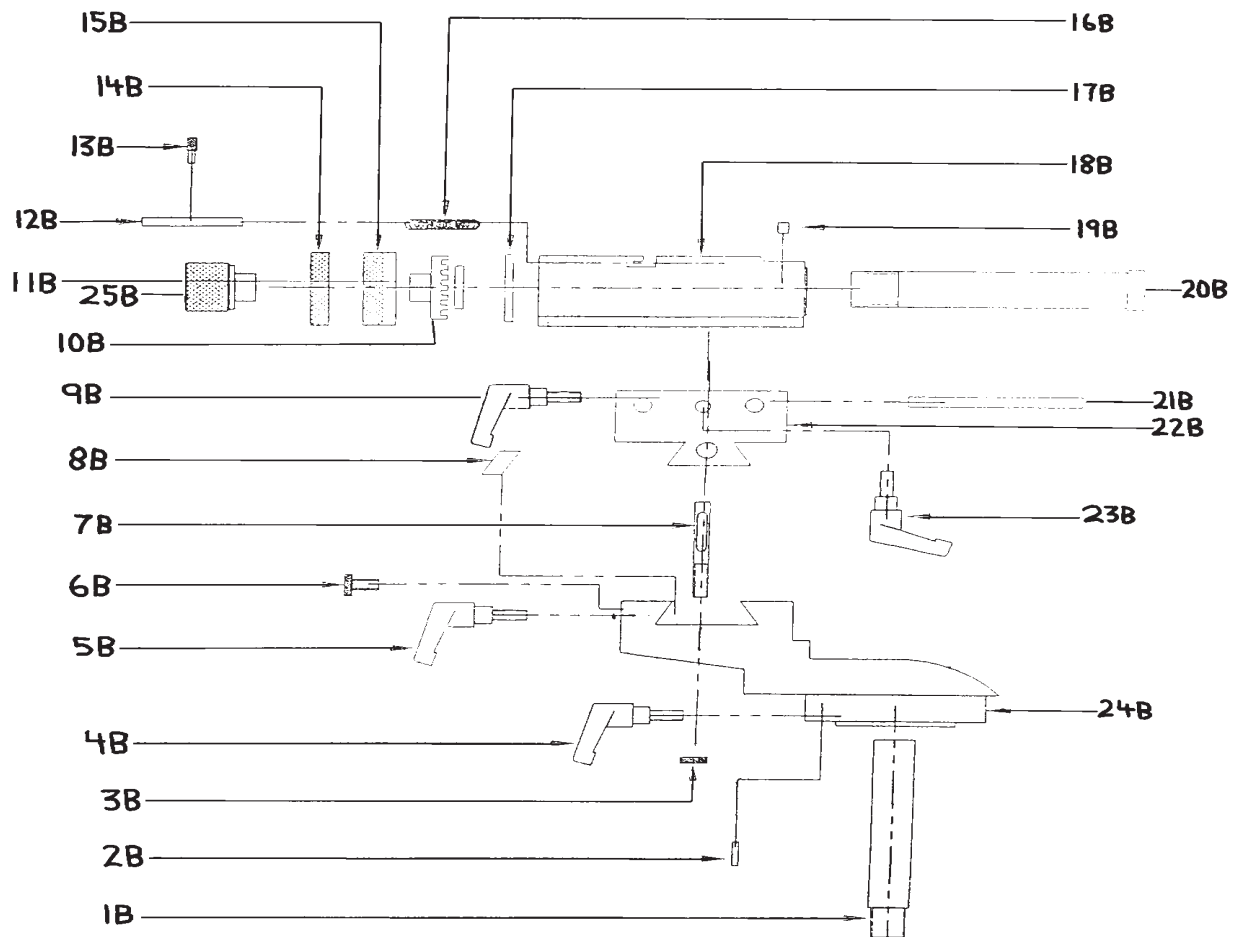
**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

## PARTS LIST B

Part	Description
1B	Leader Level
2B	Fixed Screw
3B	Front/Back Micro Adjusting Handle
4B	Handle
5B	Handle
6B	Screw
7B	Right/Left Fixed Screw
8B	Key
9B	Handle
10B	Gear
11B	Plate
12B	Degree Bolt
13B	3-Speed Fixed Handle

Part	Description
14B	Tightening Screw
15B	Front/Back Degree Ring
16B	Spring
17B	Fixed Reading Plate
18B	Collet Seat
19B	Oil Ball
20B	Collet
21B	Key
22B	Seat
23B	Handle
24B	Turning Seat
25B	Sleeve Tightening Nut

## ASSEMBLY DIAGRAM B



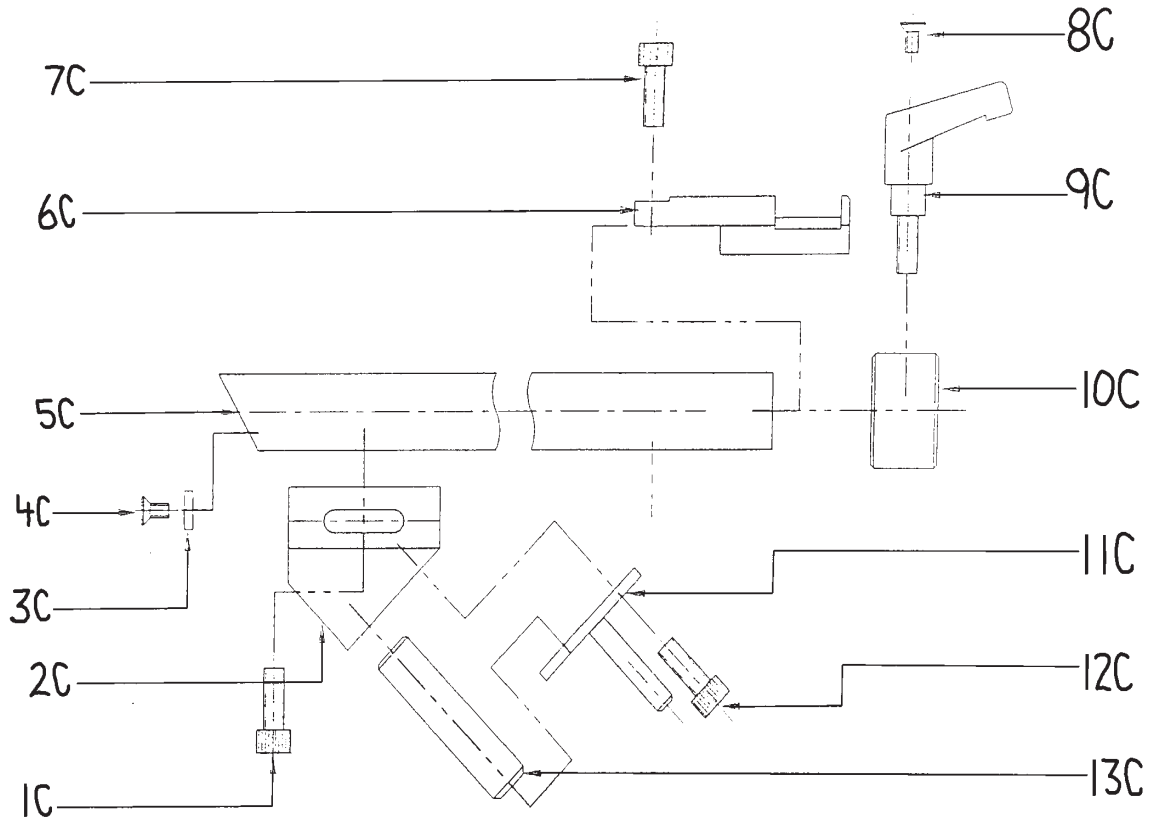
## PARTS LIST C

Part	Description
1C	Bolt
2C	Slip Block
3C	Gradient Plate
4C	Bolt
5C	Twist Drill Spindle

Part	Description
6C	Slip Block
7C	Bolt
8C	Bolt
9C	Handle
10C	Eccentric Ring

Part	Description
11C	Turn Plate
12C	Bolt
13C	Collet Spindle

## ASSEMBLY DIAGRAM C



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## PARTS LIST D

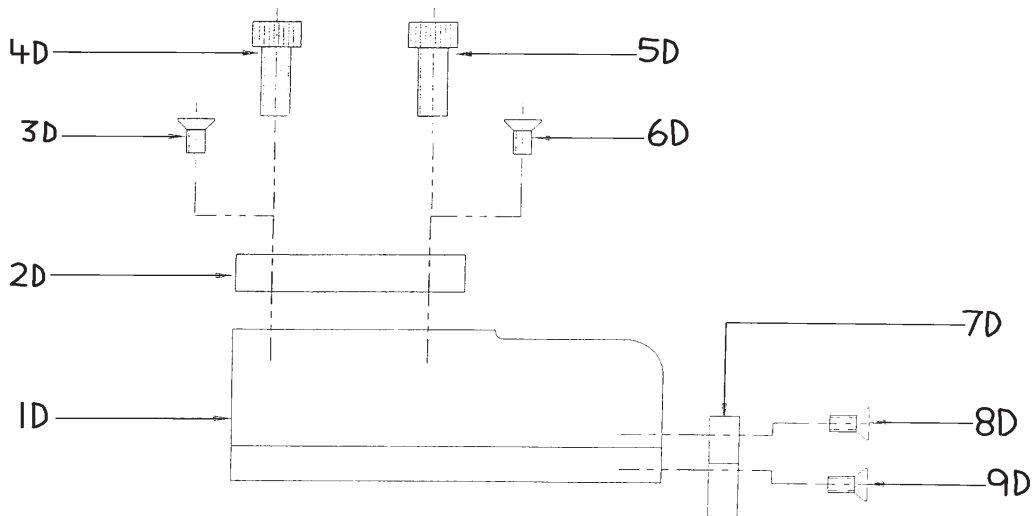
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Part	Description
1D	Lathe Seat
2D	Fixed Board
3D	Bolt (M6 x 12)
4D	Bolt (M6 x 20)
5D	Bolt (M6 x 20)
6D	Bolt (M4 x 12)
7D	Fixed Board
8D	Bolt (M4 x 8)
9D	Bolt (M4 x 8)

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## ASSEMBLY DIAGRAM D

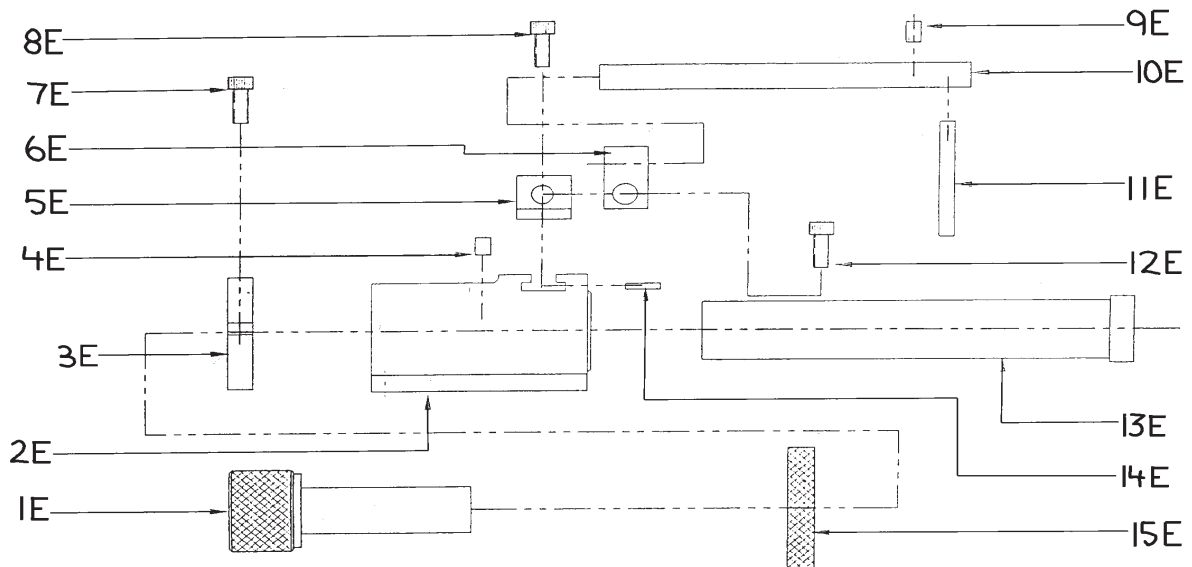
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## PARTS LIST E

Part	Description
1E	Collet Seat Tightening Screw
2E	Collet Seat
3E	Tightening Ring
4E	Oil Cup
5E	Connect Block
6E	Connect Block
7E	Bolt (M6 x 16)
8E	Bolt (M6 x 16)
9E	Bolt (M5 x 12)
10E	Adjusting Level
11E	Adjusting Level
12E	Bolt (M8 x 25)
13E	Sleeve
14E	Slip Block
15E	Tightening Nut

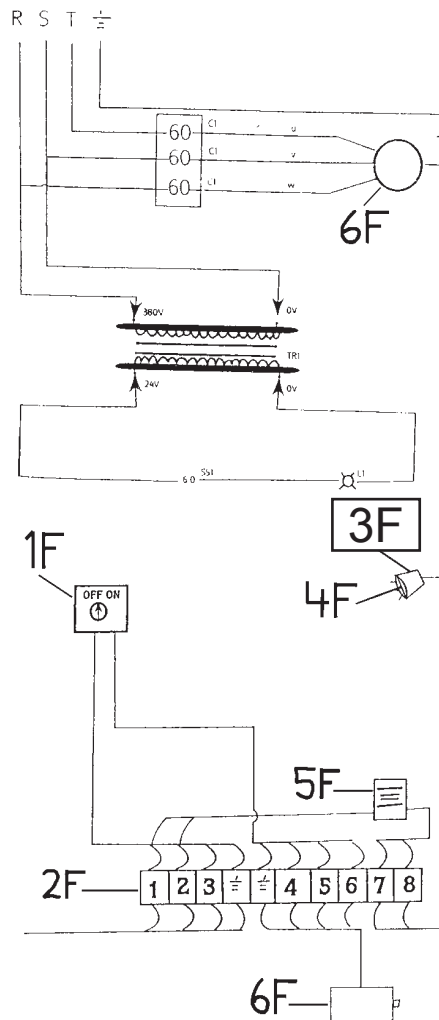
## ASSEMBLY DIAGRAM E



## PARTS LIST F

Part	Description
1F	Power Switch
2F	Transformer
3F	Lamp
4F	Lamp Bulb
5F	Power Failure Indicator
6F	Motor

## ASSEMBLY DIAGRAM F



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## LIMITED 90 DAY WARRANTY

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Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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